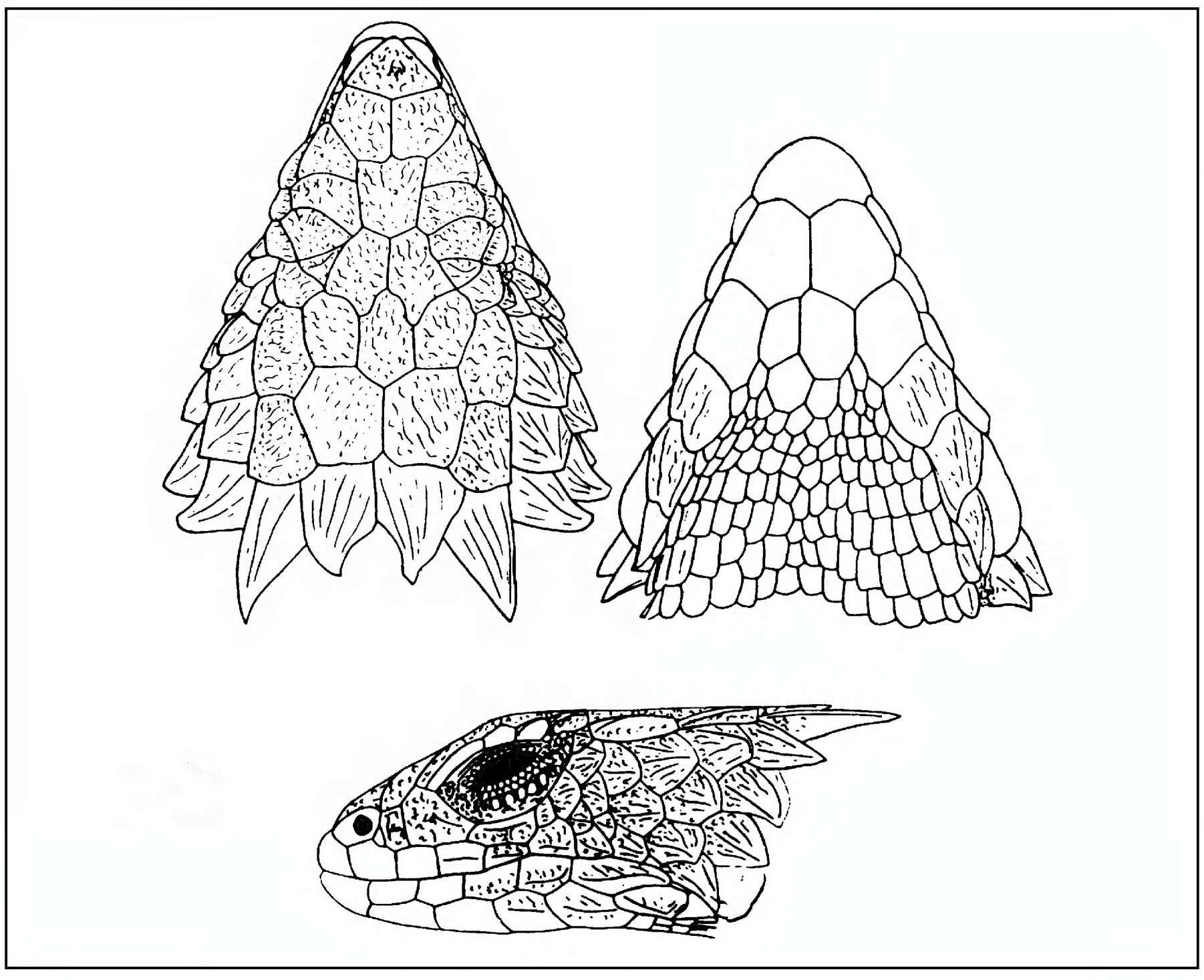
BULLETIN
of the
Chicago Herpetological Society

Volume 35, Number 12
December 2000



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The BULLETIN of the Chicago Herpetological Society (ISSN 0009-3564) is published monthly by the Chicago Herpetological Society.

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Bull. Chicago Herp. Soc. 35(12):277-280, 2000

Observations on the Giant Sungazer Lizard, *Cordylus giganteus*, in Captivity

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In the past few years, it has come to my attention that more sungazer lizards have been introduced into the commercial pet trade. For this reason I thought it would be a good time to share my observations and interactions with this species, in the hope that others might benefit from my experience in keeping these lizards. As you may be aware, there is still very little written on *Cordylus giganteus*, compared to other, more popular, types of lizards. The only articles I've seen in herpetocultural magazines have been Switak (1995) on the genus *Cordylus* as a whole, and Donovan (1997) on sungazers specifically. *The Vivarium* has never published an article on the genus *Cordylus*, and popularized reptile books are general in their information, often contradicting one another on the facts (e.g., Bartlett and Bartlett, 1997; Mattison, 1983, 1991; Wynne, 1981; Zimmermann, 1983).

I acquired my first sungazers in 1989. At the time, information on these lizards was not easy to find, so I really did not know what to expect from them as far as behavior and temperament were concerned. I had experience keeping and breeding smaller cordylid species, such as armadillo lizards, *Cordylus cataphractus*, and girdled-tailed lizards, *Cordylus warreni depressus*, but none with the majestic sungazer lizard. My first job was to find written information currently available. I did as much research as I could, talking to other people and gathering information from various technical articles from the Field Museum library.

Having gathered verbal and written information, the second step was to prepare a habitat enclosure for them, as these lizards are really too big to be kept properly in an aquarium environment. I modified a homemade wooden table, adding pegboard walls for ventilation, and two screen doors in the front, one on each side, for easy access. The enclosure measured seven feet by four feet with two fluorescent light fixtures overhead, each containing one full spectrum light and one black light, approximately 15 inches from the ground. I furnished a heating pad in the center of the cage for autumn and winter use, and a large dog bowl for water. Hiding places were provided in the form of two clay tiles, 24 inches long, cut in half lengthwise, to serve as burrows. These lizards live in open grassland areas, and hide in underground burrows, roughly three feet long, either dug by the lizards themselves, or dug by other animals and adapted for use by the sungazers. The flooring of my enclosure was floor tile, over which I placed artificial turf, except for 12 inches at the front of the enclosure. This is where I placed the water bowl and I hoped was the place the animals would use for their bathroom area (they tend to use the same spot repeatedly for this activity). These lizards come from a temperate climate, with low humidity, where they hibernate in their burrows during the winter months. I have never used a heat lamp in the enclosure, as these animals prefer a relatively cool air temperature. Extreme heat, such as needed with *Uromastyx* and chuckwalla species, could prove fatal for the sungazer. Use of a small fan, during the summer months, to help circulate the air, has also proved helpful. The cage was now ready for its inhabitants (Figure 2).

When I unpacked the shipment of sungazers, I didn't know what to expect. Would they be aggressive and bite? I was surprised to find them quite non-aggressive, preferring to just lie there with their arms at their sides. This is a defense posture they use in the wild, as they are heavily armored from top to sides with sharp thornlike scales. Anything biting them gets a mouth full of thorny protrusions, not unlike biting a pincushion. The other defense they use is to swing their armored tails back and forth at the mouth of their burrow. This can draw blood if one is not careful. Other than that, I have never had any aggressive action taken towards me by the sungazers. They have never actively bitten me in defense, only when I have gotten in the way during feeding. They prefer to run and hide, rather than attack, unlike girdle-tailed lizards, *Cordylus warreni*, which will bite readily, given the chance.

Figure 1. The author and friends. Photograph by Carlos Sanchez.

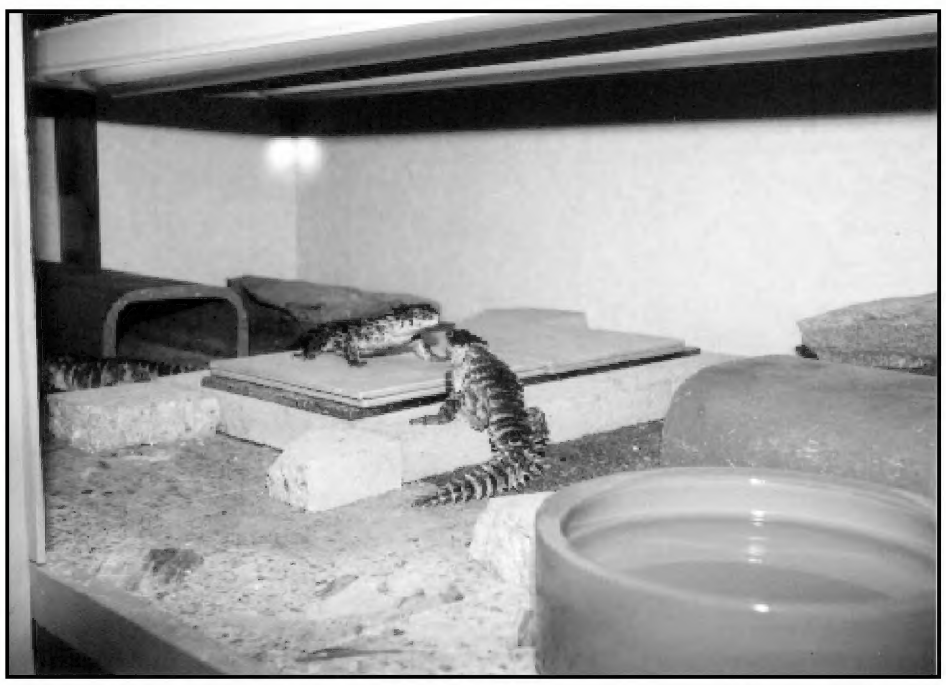

Figure 2. Cage number one, looking through the right door opening. Photograph by Carlos Sanchez.

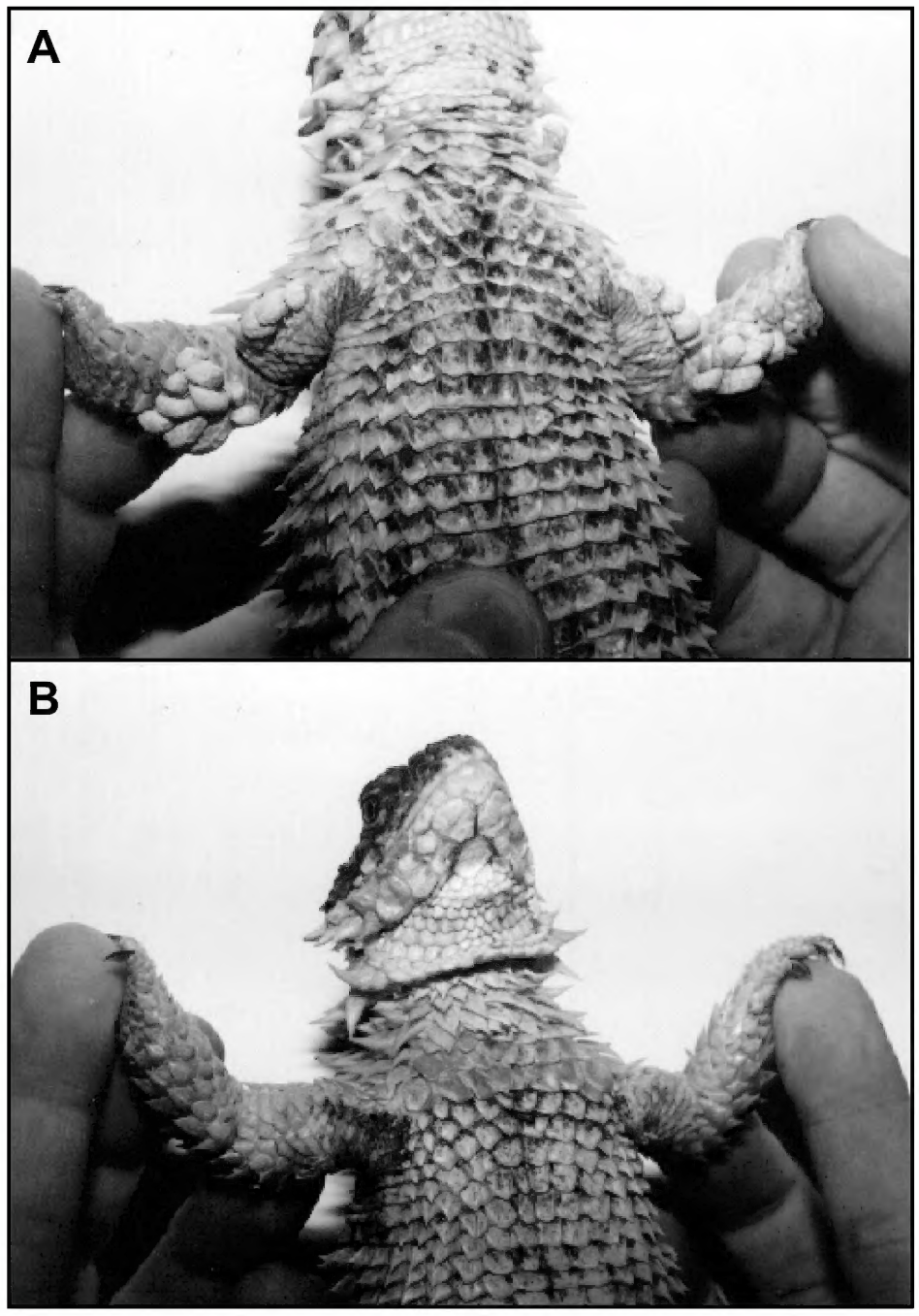

Figure 3. **A**) Male sungazer, *Cordylus giganteus*, showing raised scales on the forelimbs. **B**) Female sungazer, showing normal forelimb scales. Photographs by Carlos Sanchez.

The group consisted of one male and three females. Males, incidentally, are very easy to sex. They have pronounced raised scales on the inside of their forelimbs, which are very noticeable (Figure 3a), as well as larger femoral pores on the hind legs. Females have regular scales on their forelimbs (Figure 3b). I do not know the reason for these raised scales on the males, but males of other *Cordylus* species do not have them at all.

I watched and waited for the usual lizard behavior patterns to emerge: head-bobbing, tail-wagging, tongue-flicking, etc. The sungazer lizards rarely or never exhibited these behaviors. They seemed oblivious to one another. They chose their respective burrows; occupied by two animals each. Over the years, I've noticed that the male would change burrows from one side to the other, every year or every other year. One year he would use the one on the left, then move to the one on the right two years later, for no apparent reason. The females would interchange with him, depending on which side he occupied. I've observed attempted copulation only twice in 10 years. Of course this doesn't mean that it hasn't happened more frequently; perhaps I just wasn't home at the time, to witness it. The first observed copulation was five years after I had obtained them. It was in November and the barometric pressure had just dropped that day. I heard scurrying inside of the cage and went to investigate. I found the male chasing one of the females slowly around the entire cage attempting to mount her from behind. At one point he bit her head region, and tried to position himself underneath her tail region. I did document this with a photo, but I didn't get as close as I might have liked, for fear of disrupting the action. I couldn't tell whether this was a successful breeding because of their position within the enclosure. Afterwards, they went back to ignoring each other. Three years later, I would witness this action again, also in the autumn months, but to my knowledge, no young were ever born, unless they were eaten after birth. I have read that males can be cannibalistic towards any young (Marais, 1984).

In 1994, I acquired six more yearling sungazers, which were housed in two groups of three each, until I could build another large enclosure. They were about seven inches total in length, and unsexed at the time. As they grew, I discovered that the sex ratio was four males and two females. Since I did not have the space for a lot of large enclosures, I decided to put all six in another seven feet by four feet enclosure with an open top this time, sort of like a big wooden box. I also included six hide areas on one side of the cage, using clay tiles again, and 12 inches in length (Figure 4). Housing them all together, I was not sure how all the males would react to one another, but then again, this species interacts and behaves by their own set of rules. When I first placed them all together, I actually saw tail-wagging and tongue-flicking, as the two groups got to know one another. The aggression towards one another subsided after one hour and they have been living as one group

Figure 4. Cage number two, open topped, viewed from above.

ever since. I personally was surprised that four males would tolerate one another in an enclosed area, but they are now about seven years old and I have not yet had a problem. I do not know, however, at what age they reach sexual maturity. They are not as large as my other adults, so perhaps they are not yet sexually active, but at seven years, I would think that they are mature enough.

The water dishes for both enclosures are large enough for the sungazers to immerse themselves, and I have noticed a rather unusual behavior. In both cages, these lizards like to sit in the water bowl, much like a bathtub. I have used large water dishes for other species of *Cordylus*, and they do not show this behavior at all. The sungazers, however, seem to like their occasional dip in the water dish. I have seen other enclosures at zoos, which use little dishes of water for the sungazers. Perhaps if they knew they liked bathing, they would give them larger bowls. In the wild, they do experience a rainy season, so coming in contact with water is not an unheard of experience. Sometimes their burrows can become flooded out, leaving these lizards to locate other, drier burrows, or digging upward in the existing burrow. They also do not like venturing far from the protection of the burrow entrance. I have left the cage door open on one occasion, only to find that not one had even left the enclosure. Should they become startled; the sungazers literally fly into the burrow openings, seeking refuge from impending danger. Should I open the cage door at this point, they would whip their tails back and forth inside the clay tiles, resulting in a hard, hollow, thump-thump sound. Occasionally, one can be heard digging inside its shelter, at the end against the wall.

Perhaps in part because these animals behave unlike other lizards, breeding them remains a mystery. They may only give birth every other year (van Wyk, 1988), and the gestation period is unknown—it might last a year or even longer. People who have claimed to breed them, usually have done so only once, leading me to believe that the allegedly bred sungazer was gravid when purchased. If gestation can last a year or more, then this scenario certainly seems plausible. If someone had bred them after having kept them in captivity for two years or more, I would be more inclined to believe that, yes, they actually had bred them. Because they are notoriously difficult to get to breed, I feel it is important for people purchasing them to know this fact. If one is buying sungazers in hopes of making a small fortune off the offspring produced, then one is in for a big surprise. Many zoos and individuals have tried for years, but breeding is still an elusive nut to crack. It seems hibernation plays a key role in reproducing this species, but if you do hibernate, are you willing to run the risk of a sungazer fatality as a result? I have talked to someone in South Africa who did breed these lizards regularly by hibernating them in a refrigerator for several weeks, in the winter months. He also kept them outside the rest of the time, utilizing natural sunlight in the process. Bert Langerwerf maintains his reptiles in much the same way. After many years of keeping sungazers outdoors at his Alabama facility, with no young being born, Bert Langerwerf finally did report breeding success this past year.

These days, I find it shocking the obscene amounts of money that sungazers command in the commercial pet trade, especially since the chance for breeding success is so slim. Should breeding occur, they only give birth to one or two young and the process could take two years. This is quite a contrast from some species of commercially bred lizards, which may lay 20 eggs each, three times a year.

At least if more people are buying and working seriously with sungazers, then breeding may become more commonplace. The more people contributing to the existing knowledge base, the better for the animals' continued survival in captivity. It's my hope that this article will inspire other sungazer keepers to share their experiences in print.

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Bull. Chicago Herp. Soc. 35(12):280, 2000

Anomalous Squamation on a Brown Snake (*Storeria dekayi*)

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Subcaudal squamation on the brown snake (*Storeria dekayi*) consists of a series of symmetrically paired scales extending from the divided anal plate down the tail, a pattern typical of colubrid snakes (Figure 1a). Variations of this pattern have not previously been reported, although the number of scales does vary (Smith, 1961; Minton, 1972; Mount, 1975; Mitchell, 1994). In this note, I report an observation of an abnormal subcaudal scale pattern.

I encountered an adult brown snake in the University of Wisconsin Arboretum, Dane County, Wisconsin, on 4 September 1999. The specimen was coiled atop a log in full sunlight along a trail edge. The snake was captured by hand, examined, and released after a quick sketch of its scale pattern was made.

The total length of the snake was approximately 18 cm. Coloration was typical of other central Wisconsin specimens (i.e., light brown dorsum, with lighter middorsal stripe, two rows of dark spots along the edges of the stripe, and a creamy white ventral surface with tiny dark spots along the margins of each scute). Seventeen dorsal scale rows were present and the anal plate was divided. The subcaudal squamation, however, was abnormal (Figure 1b). The anal plate was followed by three undivided scales extending the width of the body, similar to the ventrals. These undivided scales were followed by a series of four asymmetrically divided scales. The remainder of the tail had normal appearing squamation.

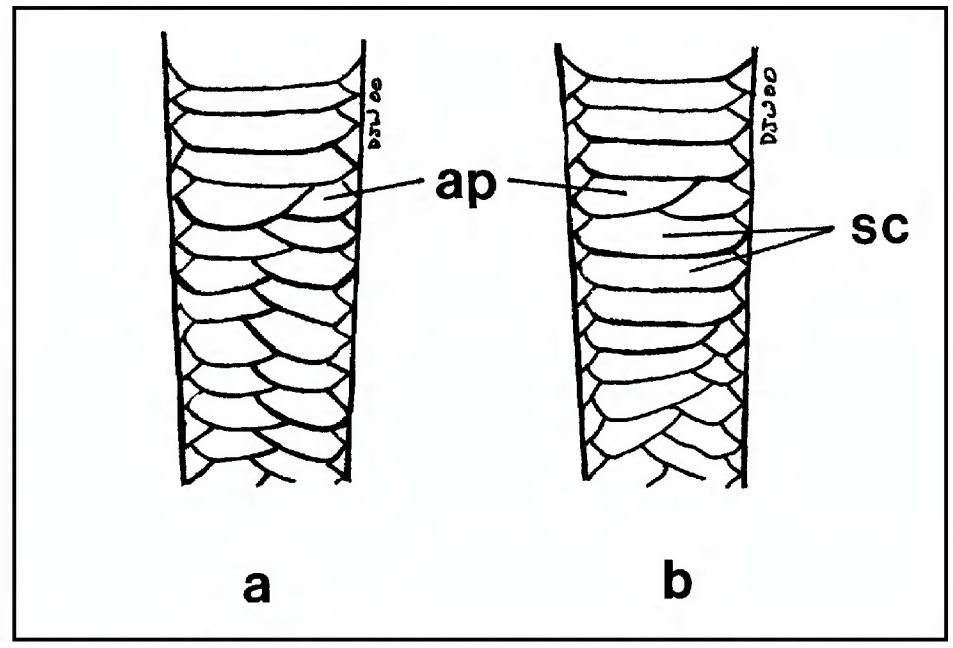

Figure 1. Subcaudal squamation in the brown snake (*Storeria dekayi*): (**a**) normal squamation; (**b**) aberrant squamation in a Dane County, Wisconsin, specimen. **ap**, divided anal plate; **sc**, two of the abnormal undivided subcaudals.

The cause of the unusual scale pattern is unknown. Other brown snakes examined in the same area over the past five years lacked similar scalation. I am unaware of any similar reports of subcaudal scale variation in this species or the genus *Storeria*.

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Bull. Chicago Herp. Soc. 35(12):281-283, 2000

Herpetological Haiku

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Herpetological images in art and literature as well as in other aspects of the human experience have drawn the attention of numerous writers, including psychoanalysts, anthropologists, art historians-critics, theologians, as well as biologists (Howey, 1955; Jung, 1964; Morris and Morris, 1965). Numismatists and philatelists have also been active in studying the history of herpetological devices in their respective domains (Chiszar and Smith, 1995 and references cited there). *Reptile and Amphibian Magazine* under the editorships of Norman Frank and Erica Ramus has always had a "Photo and Herp Art Dept," with fascinating articles describing and illustrating herpetological images in many media and permitting a wide variety of interpretations (e.g., Anonymous, 1995; Hill, 1996; O'Hanlon, 1997; Rybak, 1995; Tutka, 1996). Although poetry is a field known to allude to reptiles and amphibians, we are aware of no review along these lines nor of anyone who collects relevant poems. Accordingly, we initiated such an effort by surveying several volumes of haiku, a minimalist poetic form developed to a high artistic level by Japanese masters such as Basho (1644-1694; see Giroux, 1974, for details regarding haiku form). We have by no means exhausted this genre; in fact, we have merely scratched its surface. Our goal here is to present a sampling of herpetological haiku so as to encourage other readers to undertake similar studies and to report their findings in this journal. In this way, the *Bulletin of the Chicago Herpetological Society* might become a repository for herpetological poetry so that a future anthologist might have to look no farther than these pages to find all the material needed for a volume on this topic.

Haiku is a fitting place to start because it is arguably the type of poetry that is closest to natural history. Zen and Shinto combined in Japanese thought to create the view that, by sharing the same reality, all organisms experience a kinship, even though they may act very differently, according to their respective natures. This view gave rise to an appreciation of the natural world without sentimentality, and to an inclination to observe it and to see wonder in the ordinary. Austerity, another Zen attributes, leads to terse expression, without excess commentary, theorizing or any other form of intellectualizing. Haiku verse clearly reflects these attitudes, as haiku almost never puts wit or verbal cleverness above the observation, and haiku rarely attempts to generalize or explain. Like good natural history reports, interesting events are captured in few words and left to the reader to interpret. Additional discussion of the history and current status of haiku can be found in Blyth (1949) and Giroux (1974). Haiku has become a passion for many English writers and this has been so for half a century. A lively treatment of this subgenre has been provided by Henderson (1967).

We present a small collection of haiku that involve herpetozoa. These were found in the previously cited books and in an anthology published in 1955 (the editor–translator elected to remain anonymous and to attribute the book to Basho and others).

An old pond,
A frog jumps in,
The sound of the water
Basho

This garter snake
Goes in and out of the grass
All at the same time!
Hackett

Squatting motionless,
The sun-tanned child and the toad
Stare at each other
V. Lie

Breaking the silence of an ancient pond,
A frog jumped into the water
A deep resonance
Yasuda

Standing still at dusk,
Listen . . . in the distance
The song of froglings!
Buson

The snake departed,
But the little eyes that glared at me,
Still shining in the grass
Kyoshi

Come come! Come out!
From bogs old frogs command the dark,
And look . . . the stars!
Kikaku

Fawning fat frog you,
Spreading damp hands on inlaid floor . . .
Croaking courtier
Sokan

Toad* in the dusk,
Spare my littler buzzing friends
Among the flowers
Basho

The lizard flicks over
The undulating ripples
Of sunlit clover
Yasuda

* Basho originally wrote "Swallow in the dusk," but we could not resist a small herpetological transfiguration.

Out they go again
The snakes—east, south, west, north,
Hear that drumming—rain!
A. R. King

By an ancient pond
A bullfrog sits on a rock
Waiting for Basho
S. Alexander

The tree-frog
Riding the banana-leaf
Sways and quivers
Kikaku

The frog
Has both arts—
Of song and of battle
Teishitsu

The water a cow drinks
turns to milk;
The water a snake drinks
turns to poison.
Anon.

The frog
Rises up by the same force
With which it jumps in.
Anon.

The meadows
were drinking at their leisure;
the frogs sat meditating.
Thoreau

Old dark sleepy pool,
Green unexpected frog
Goes plop! Watersplash!
Basho

Clearly, anurans have been the most popular herptiles among haiku writers, with squamates occupying second place. Most of the poems capture a simple but graphic event, so that readers have no difficulty forming an image of the visual, auditory and even olfactory aspects of the event. Indeed, this is a charming attribute of haiku. Rarely did we find factual errors, mainly because haiku writers usually describe rather than conclude. Nevertheless, all readers of the *Bulletin* undoubtedly bristled at the Buson line about "the song of froglings." Yet, the typical clarity and simplicity of haiku characteristically produce a strong, accurate image, allowing the reader to experience what is called a "haiku moment."

Strictly speaking, haiku, as a recognized art form, is only 400–500 years old; but, it developed from similar forms that are more than a millennium older, such as waka, renga and renku. We made no distinction between these forms in our selection of poems for this piece. In fact, it is exceedingly difficult to differentiate these forms, and this is a task best left to experts. In this context it is worth restating that haiku writing has become popular among English speakers as well as speakers of other western languages. Several haiku originally written in English are included above, along with lines extracted from Thoreau to show that classical American writers apparently had haiku moments. Incidentally, a correspondent on National Public Radio recently mentioned the existence of "therapeutic haiku," a form of psychotherapy in which clients seek haiku moments in order to achieve both enlightenment and therapeutic transcendence. We did not consult this literature, although it is conceivable that some very interesting herpetological images might appear in it. On the other hand, we were disturbed by the absence of crocodilians, turtles and dragons from our collection of herpetological haiku, so we did a some therapeutic work on this matter by composing three pieces.

Dragons guard their pearls
And beautify garments,
But flee from poets

No poet loves crocodilians
Equal silence reigns over
Giant salamanders

Having found no turtle
In books of haiku
Ponds and swamps must be observed anew

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Bull. Chicago Herp. Soc. 35(12):283, 2000

Book Review: *Fossil Snakes of North America: Origin, Evolution, Distribution, Paleoecology* by J. Alan Holman. 2000. 357 pp. Indiana University Press

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Paleontology and zoology have long been treated as radically different fields of science. This is in large part because each field studies creatures in different conditions, obtained by different methods. After all, if a zoologist drops a specimen, it runs away and he has nothing; if a paleontologist drops a specimen, it fragments and he now has dozens of specimens! Herpetology is itself a composite field responsible for two quite different classes of living organisms, united in one science mainly by similarity of size, collection, and preservation methods of the organisms. It has been a relatively recent exercise to see paleontology and zoology firmly united, with many practitioners of the one field also trained in the other. Such new cross-disciplinary activity will, I believe, be of great benefit to biologists of all stripes.

A book destined to be a classic of the benefits of such paleo-neontological cooperation is Holman's *Fossil Snakes of North America*. Prior to Holman, paleoherpetologists had Gilmore's 1928 *Fossil Lizards of North America*, an excellent catalogue of fossil specimens, but many incorrectly interpreted and not discussed from the perspective of living animals, or the works of Richard Estes. Estes was a pioneer of uniting fossil and living biologies together, but still only scratched the surface of what would become a burgeoning new discipline. The "hot-blooded dinosaur" model advanced in the 1970s by John Ostrom and Robert Bakker lead the renaissance of uniting neontology with paleontology.

Holman has presented the reader with a compendium of important information. After a brief review of general characteristics of snake anatomy, he discusses current ideas on the origins of these remarkable animals, wisely refraining from endorsing any particular scenario because "one learns that about the time one hypothesis is chosen over the other, a new fossil is found that changes the picture." Following this is a review of snake skeletal anatomy, with a particularly detailed review of vertebrae structure. This section is worth the price of the book by itself, for it covers a very specialized and important subject that is absent from most college anatomy texts. This is the specialist's review of variation, and one sorely needed by anyone working with snake anatomy.

The author also explains the difficulties associated with proper identification of snakes from such fragmentary evidence as a vertebra or two, and discusses how a reader should go about properly identifying a specimen based on anatomy and stratigraphic data. Too few authors really discuss how to evaluate data, but Holman makes this aspect of doing science a main point. Bravo!

Most CHS readers will find the distributional information of most interest. Here Holman shines, discussing where and when different taxa appear in America, and how their ranges have changed over time right through the present. His insights are a goldmine of details accounting for contemporary distributional patterns while giving vivid pictures of geological events that affect snake distribution. Snake keepers will be able to profit from Holman's observations on snake adaptability to habitat and climate change.

This book is certainly technical. However, the author's writing style and chapter sequence come across as if *Fossil Snakes of North America* was written as a series of lectures for a well-conceived class. Readers will need little additional information to fully grasp the main topics (you might care to brush up on Tertiary epoch sequences or fossil formation). The text is fully illustrated, and includes a nice center spread with color photos of living American snakes. For anyone more interested in their snakes than "how many clutches can I produce and sell this year?" *Fossil Snakes of North America* is an essential read. The father of geology, James Hutton, once wrote "the present is the key to the past." Holman has used the present to give us an illuminated view of the past, and in so doing has also shed far more light on the present.

Professor Holman, all I want to know now is: When are you doing a volume on fossil lizards?

Bull. Chicago Herp. Soc. 35(12):284-287, 2000

HerPET-POURRI

by Ellin Beltz

Your quarterly dose of GreenLines

All the following have been quoted directly, unless otherwise indicated. Thanks to *GreenLines* and Karen Furnweger and James Harding and others for sending me these articles.

• The number of endangered green turtles nesting on Israeli beaches has dropped to around 10 with biologists now saying the population "maybe under the red line of possibility" for recovery says Reuters 9/11. Only 1,000 female green turtles, which "nest almost exclusively in Israel, Cyprus and Turkey" are thought to remain. Loss of coastal habitat, "plastic trash, fishing nets and speedboat propeller blades" are the primary threats to their survival. [*GreenLines*, September 21, 2000 / http://www.stopextinction.org]

• BP's controversial Northstar project, "the first U.S. offshore Arctic" oil production facility is ready to begin drilling "as early as November. . . ." Environmentalists are highly critical of plans to run a "vulnerable" six-mile pipeline under the Beaufort Sea pack ice. Full production of 65,000 barrels per day is expected by late 2001 and "another similar project could soon follow." Clean-up of an oil spill on pack ice would be highly problematic and "would be harmful to an environment rich in wildlife. [*GreenLines*, September 22, 2000]

• House and Senate committees have now approved a "$15 million down payment on 1,500 acres of desert tortoise habitat" currently owned by "developer James Doyle . . ." In 1996 and 1998, Mr. Doyle made "$8,000 in campaign contributions" to the bill's sponsor Rep Jim Hansen (UT) and stands to get "millions more" under the bill which gives him "full market value" plus "damages and interest dating back to 1990." After leasing the land in the 1980s, Doyle "bought about 2,400 acres from the state in 1990 for about $800,000." [*GreenLines*, September 22, 2000]

• A federal court has ruled that National Marine Fisheries Service management plans for the Gulf of Mexico, New England, Caribbean, Pacific and North Pacific fisheries do not "comply with federal environmental law" and confirms charges that NMFS failure to adequately regulate "nonselective fishing methods like trawling" are seriously harming fish habitat and "survival rates." [*GreenLines*, September 25, 2000]

• A telecommunications company that lays fiber-optic cables for the Internet, voice and data transmissions has agreed to "donate $1.2 million to the Nature Conservancy" to "avoid prosecutions and fines" over damage done to "40 wetlands that are potential habitats" for endangered bog turtles. . . . The violations are among the "most serious" ever in southeastern Pennsylvania, where loss of habitat is the "critical threat to bog turtles." [*GreenLines*, September 26, 2000]

• The Hawaiian Islands, long renowned as the nation's "leader in biological diversity" are on the verge of becoming "the nation's capital of species extinction and endangerment . . . " Invasive alien species, sprawl, development and "environmental destruction by hooved animals" are turning the islands into "the biggest ecological catastrophe in the U.S." Although conservationists valiantly fight to preserve and restore small biodiversity hot spots, "some now speak of 'hospice ecology' taking care of species while they inevitably slip into extinction." Wary of public pessimism, many scientists now say that Hawaii's problems are a "harbinger of things to come on the mainland" in states like California, Florida and Texas. [*GreenLines*, September 26, 2000]

• In the last decade, 30,000 gopher tortoises, a species "older than the dinosaurs" and listed by Florida as a "species of special concern," have been "sealed up in their underground burrows and killed" to accommodate the state's "booming growth" says the St. Petersburg *Times*, 10/1. In cases where the state hasn't given the go ahead to bury them alive it has allowed the relocation of thousands more, a "feel-good measure" that has spread respiratory infections to healthy populations. Biologists say the species is being pushed toward extinction and "now belongs on the federal endangered species list." [*GreenLines*, October 3, 2000]

• After more than two years of delays and a "marathon legal battle" the "fastest snake in the West," is finally getting 406,598 acres of its habitat protected says the. . . . Listed in 1997, the critical habitat designation is the first to be implemented following six legal victories in similar cases that are part of the Center for Biological Diversity's "continuing lawsuit campaign." According to the CBD and the courts "it's not enough to protect an endangered species without also protecting its habitat." [*GreenLines*, October 10, 2000]

• Researchers have found that wheat near the Chernobyl nuclear accident has mutated "much faster than expected. . . . " Scientists say it is a "warning signal" about "genetic stability as the world continues to be filled with things that aren't good for DNA," such as ultraviolet radiation from the "Earth's depleted ozone layer." [*GreenLines*, October 10, 2000]

• The Senate ratified and President has signed the Inter-American Convention for the Protection and Conservation of Sea Turtles . . . . The convention requires the U.S. and 22 Latin American signatories to protect and conserve six endangered and threatened species of sea turtles and their habitat, fosters international cooperate in research and management and reduce the incidental capture, injury and mortality by requiring the use of turtle excluding devices, TEDs. Many Western Hemisphere nations have already followed the U.S. lead and require the use of TEDs and the treaty would level the playing field for all other Latin American and Caribbean nations' shrimp fisheries. [*GreenLines*, October 16, 2000]

• In an important takings case, the New York Supreme Court has upheld a lower court ruling which ordered Sour Mountain Realty to remove a fence it had constructed to keep endangered timber rattlesnakes off its property . . . . The high court rejected the developer's taking challenge and affirmed the "venerable principle" of the state's authority to protect wildlife. For more information on the case and takings law see <www.envpoly.org>. [*GreenLines*, October 16, 2000]

• A report released in August on the evolution and ecology of the West Indian iguanas is drawing renewed attention to the "threats to their survival and programs to preserve them. . . ." Caribbean iguanas are described by the World Conservation Union as "the most endangered lizards in the world" and the two most imperiled are the Jamaican iguana with only about 100 left in the wild and the Anegada iguana is now found only on one island of the same name. Once abundant and the "largest terrestrial herbivores" on the islands, loss of habitat and non-native animals have reduced all remaining iguana populations to perilously low levels. [*GreenLines*, October 16, 2000]

• Scientists have found a new freshwater animal that "does not fit into any one of the previously known animal families . . . " The tiny creature, about 0.1 mm long, and makes its living by scraping "bacteria and algae from underwater moss" growing in the frozen wells. [*GreenLines*, October 16, 2000]

• According to environmentalists, an illegal off-road vehicle "mudfest" near Nederland, Colorado, "destroyed one of the few habitats left for a toad headed for worldwide extinction. . . ." The rally was broken up by county sheriffs after the ORVs had obliterated 25 acres of wetlands at Caribou Flats, habitat for the boreal toad which is on the state endangered species list and is a candidate for federal listing. There are reports that the rally was promoted by a local radio station and that Humvees from the Colorado National Guard participated. [*GreenLines*, October 17, 2000]

• BP Amoco's Northstar offshore oil facility failed its third cleanup trial in the last year. . . . Although "BP readily concedes its equipment does not work," the controversial Arctic offshore drilling operation, is still scheduled to be fully functioning by "late 2001." For now, like the four other offshore fields, Northstar will be "restricted to winter operation" until it "finds a way to clean up an oil spill in the broken ice of spring and fall. [*GreenLines*, October 19, 2000]

• Malaysia is asking the World Trade Organization to force the U.S. to repeal a law "that bans imports of shrimp from countries which use trawling nets that trap the turtles. . . ." Experts say nets without turtle-excluder devices "are killing up to 150,000 turtles a year." In response to a WTO ruling declaring the U.S. law "illegal," the U.S. has modified its regulations and provided "assistance to countries to help them equip their fishing fleets with turtle excluders" but Malaysia is still pushing the WTO to pressure the U.S. into repealing the law all together. [*GreenLines*, October 18, 2000]

• A flock of sandhill cranes led by ultralight aircraft are at midpoint in their migration from Necedah National Wildlife Refuge in Wisconsin to their winter home at Chassahowitzka NWR in Florida. . . . To follow the migration and learn more about the Whooping Crane Eastern Partnership and their work to reintroduce a migratory flock of whooping cranes east of the Mississippi River go to <http://bringbackthecranes.fws.gov>. [*GreenLines*, November 3, 2000]

• The Army and the U.S. Department of Interior have reached an agreement to expand Southern California's Ft. Irwin National Training Center into 131,000 acres of prime desert tortoise habitat. . . . Although the deal protects 2,500 acres of other habitat, environmentalists say the expansion "is a death sentence for the reptile's west Mojave population." [*GreenLines*, October 30, 2000]

• A University of Wyoming professor has found that the endangered Wyoming toad is dependent on artificial wetlands created by "leaky irrigation systems. . . ." According to a study, 68% of the Laramie Basin's wetlands "depend on leaking ditches or irrigation water that has seeped into the ground and reappears in ponds and wetlands" while only 10% of the wetlands depend on "natural rivers and streams." [*GreenLines*, November 27, 2000]

• . . .[An] annual "frog census" along Arizona's Aravaipa Canyon has seen a precipitous decline of all 7 native frog species. . . . In 1978 the census numbered 2,385 frogs, by the next year it dropped to 1,040 and now the count found only 3 frogs. Scientists at the USGS Western Ecological Research Center say the frog's disappearance is a "harbinger of doom" brought on by pollution, non-native predators and disease. [*GreenLines*, November 9, 2000]

• A new University of New Hampshire study "demonstrates that environmental contaminants could be the leading cause of frog deformities and declining amphibian populations." The new research shows that the deformities are tied to "irregular levels of hormones" that regulate growth and development. Amphibians are "particularly susceptible" to chemical contaminants from sewage, pulp mill effluents, agricultural runoff, and petroleum from bilge water and boat engines. [*GreenLines*, November 9, 2000]

Galapagos Nature Under Siege

Readers, this disturbing report comes from a letter from two New Zealand wildlife photographers who have friends caught up in the lawlessness which is now Galapagos. My own dive friends have a trip down there over the holidays, and I've asked them to see how this all impacts tourism while they are down there. This report quotes directly from the letter:

In the last three days, lawless bands of fishermen in Galapagos—an island province of Ecuador long hailed as an international flagship of conservation—have attacked conservation installations, ransacked municipal offices, torched a National Park vehicle, harassed tourist groups, taken rare captive-bred giant tortoises hostage, and threatened the lives of conservation personnel. Complete news coverage is hard to get, because communications out of the various islands is shaky to nonexistent, but this info has been pieced together from E-mails received from alarmed residents and by making direct phone calls to Santa Cruz Island.

The situation reached crisis proportions around 0630 on Wednesday, 15 November, when the fishermen seized island ports and posted their fast boats at many strategic locations to harass tourists trying to visit wildlife sites. Boat chases and other aggressions were reported against tourist operators who attempted to proceed with their activities. The Galapagos National Park personnel barricaded themselves in their headquarters and the small police contingent (35 men) helped keep the throngs of fishermen at bay, who repeatedly tried to storm

the premises on Santa Cruz, as they had already done on Isabela and San Cristobal Islands. Police and navy protection have also been granted to Charles Darwin Foundation offices on Santa Cruz and San Cristobal Islands, who report that all their personnel are safe. On the Island of Isabela, the third major fishing port, the situation is reported as totally out of control, with the town mayor said to have fled for his life, though no details have been confirmed.

The fishermen have three main demands: a complete abandonment of the lobster fishing quota of 54 tons, which they filled in the first two months of the four months season; dropping all charges leveled at some of their members for previous violence against government property and personnel; and an active expansion of the Galapagos fisheries management to develop a completely new long-lining industry for currently protected sharks within the Galapagos Marine Reserve. This demand comes in complete disregard of scientific advice or the fact that such fishing practices are widely known to pose serious risks to many rare and unique species, such as albatross, sea lions, sea turtles, sharks and many others.

As threats and events escalated on Wednesday, desperate messages were received from within Galapagos calling for armed reinforcement from the Ecuadorian military, with the pleading words "We can't hold out much longer!" However, according to the local radio station on Santa Cruz Island, by the end of the day the crisis had eased as the fishermen were granted a lobster quota extension of 30 additional tons to take them to the 31st of December, corresponding to a 60% hike over and above the original quota. It is not clear at this moment how the decision was reached to grant the fishermen this extension. In a broadcast speech, the head of one of the fishing cooperatives declared the solution only temporary as the fishermen, emboldened by the success of their tactics, demand substantial expansion of the fishing activities inside the Marine Reserve, in defiance of existing quotas and measures.

. . . For several years already, the fishermen have been given a decisive voice in the Interinstitutional Management Authority in charge of the Reserve, under which spirit of cooperation they were to control the number of genuine local fishermen allowed to join the cooperatives. In a spectacular failure of this mechanism, the number of registered fishermen participating in the activity has jumped from around 500 last year to 939 at present, nearly a twofold increase, many of whom are recent arrivals to Galapagos. It is apparently this mushrooming of their numbers, who share the agreed quotas between them, which has turned the fishermen against the management scheme they helped create. The dramatic implications of this latest in a series of conflagrations is that the fishermen have, not for the first time, seen their violent tactics rewarded with immediate gratification. The clear message for the future is that whenever they are unhappy with the management strategies in defense of sustainable use of the marine environment, violent action and threats of bodily harm is all it takes to obtain expedient results.

At this writing (1900 hours, 16 November, Galapagos local time) renewed violence is already taking shape, with more attacks on conservation institutions and tourism anticipated for the early morning hours as the fishermen upscale their actions in a free-for-all of sweeping demands. . . . A show of force and commitment by all levels of government in defense of law and order and carefully crafted management strategies, is desperately needed if the integrity of Galapagos is not to be lost forever. [from Tui De Roy and Mark Jones, The Roving Tortoise Worldwide Nature Photography, <http://www.agpix.com/rovingtortoise>]

You can go to <http://takeaction.worldwildlife.org/> to send a free message to the president of Ecuador urging him to take steps to uphold the fisheries management provisions of the Galapagos Marine Management Plan and protect the marine resources of the Galapagos for future generations.

Rattlesnakes win one in New Jersey

" . . . After a vote of 8 to 7, New Jersey's Pinelands Commission approved a settlement of the dispute over the Sanctuary subdivision. The area is home to one of nine known populations of the timber rattlesnake in the Pinelands. The timber rattlesnake is listed in the state as endangered. As part of the settlement, the developer must sell the state more than 1,100 acres in the Pinelands for between $3.7 and $5.55 million, to be preserved as open space. . . . The agreement provides for a narrow, fenced-off corridor of open space from their denning grounds in the heart of the development to protected land beyond. A main road crossing the snakes' path also will be fenced off, with culverts underneath through which the reptiles are expected to pass. . . . The agreement allows the developer to build 250 of the 300 homes originally proposed." [November 2, 2000, Defenders of Wildlife / <http://www.defenders.org/states>]

Always get your permits

"An Emeryville environmental consultant has been charged in federal court with illegally relocating 64 endangered California red-legged frogs and 500 tadpoles from a Concord construction site. . . . [The man] is accused of four counts of violating the federal Endangered Species Act for moving the frogs in May and July 1999 at the Holly Creek Estates construction site in Concord, according to documents filed . . . in U.S. District Court in Oakland. . . . [The man] intends to plead guilty to two counts tomorrow. [His] firm will enter guilty pleas on the two other counts, [according to the man's lawyer who added] 'We regret that it occurred. This was as much for the benefit of the frogs as much as anything else. It wasn't done to intentionally harm the frogs.' On May 25, [the man] and two employees allegedly moved six to eight frogs from a watercourse that was to be filled in and diverted for construction at the site. . . . [Then] on July 28, [he] led two employees in collecting about 56 frogs and 500 tadpoles and 'relocating them from the portion of the pond that was to be filled in, to the portion of the pond that was to be preserved,' documents said. The next day, the section of the pond where the frogs had lived was filled in by the developer. [He] moved the frogs without notifying or getting permission from the U.S. Fish and Wildlife Service or the state Department of Fish and Game, federal prosecutors said. [His lawyer] said the frogs were moved to the preserved part of the pond are 'still alive and well, as far

as we know." [November 8, 2000, *San Francisco Chronicle*, from Christine Ross]

Turtle sites on the web
Tortoise Trust Home Page: <http://www.tortoisetrust.org> // Hatchling Haven web site: <http://home.earthlink.net/~rednine/> // Turtle and Tortoise FAQ <http://www.tortoisetrust.org/care/faq.html> [from James Harding]

Asian Turtle Trade: Proceedings of a Workshop on Conservation and Trade of Freshwater Turtles and Tortoises in Asia (Chelonian Research Monographs, Number 2, 2000) is published by the Chelonian Research Foundation, in association with WCS, TRAFFIC, WWF, Kadoorie Farm and Botanic Gardens and the U.S. Fish and Wildlife Service. Copies are available from the Chelonian Research Foundation <www.chelonian.org>. [from James Harding and Karen Furnweger]

ReptileFest is coming
If you're interested in helping out, I would ask that you: (1) send me any feedback you think would be helpful; (2) Consider volunteering for one of the committee roles . . . and many of the roles could use "helpers"; (3) Think about the various display ideas. One thing I think might be fun to do is have some people pick a "theme." Think about the Iguana Squad's set-up—it's a great combination of cool herps and a very educational message. [from new ReptileFest boss: Darin Croft <dacroft@midway.uchicago.edu>]

Scientific Names Translations on the Web
After 14 years of research and typing, my "Translations of the Scientific Names of Reptiles and Amphibians of North America" is finally published—on the web. It's gotten hits from around the world, you can visit, too. Drop by <http://www.neiu.edu/~ebeltz/herps/etyhome.html>. There's also about 180 biographies of people honored in the herp nomenclature.

Thanks to everyone who contributed this month
Next month we return to clippings from newspapers and magazines. You can contribute too! Send clippings to: Ellin Beltz, 1647 N. Clybourn Avenue, Chicago, IL 60614-5507. Make sure your name is on each piece (those little xmas freebie labels are great for this task) and that the date/publication slug is attached, visible or in some way around so I can give the proper journal credit. Please fold a minimum number of times. Some of my contributors use those big 9 × 11 inch envelopes which makes it really easy to do my monthly anti-origami. E-mail letters and comments to <ebeltz@ripco.com>. I hope Iguana-Claws brings you everything you ever wanted this holiday season and good health and great happiness to everyone in the new year.

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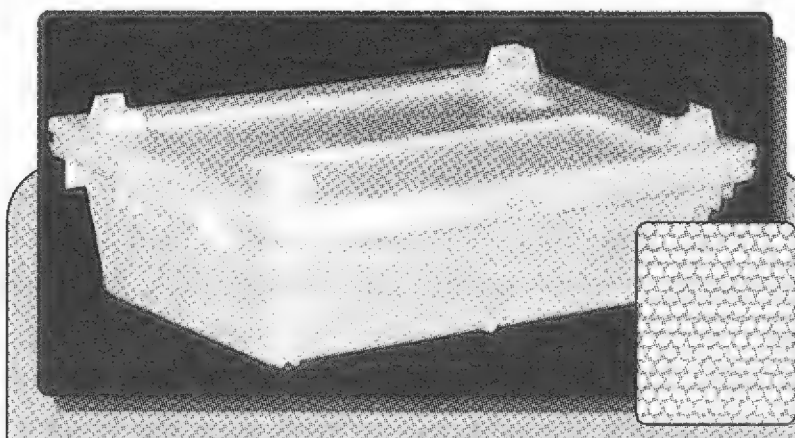

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Herpetology 2000

In this column the editorial staff presents short abstracts of herpetological articles we have found of interest. This is not an attempt to summarize all of the research papers being published; it is an attempt to increase the reader's awareness of what herpetologists have been doing and publishing. The editor assumes full responsibility for any errors or misleading statements.

LAREDO STRIPED WHIPTAIL LIFE HISTORY

M. A. Paulissen [1999–2000, Herpetological Natural History 7(1):41-57] conducted a 4-year mark–recapture study of the all-female, parthenogenetic, Laredo striped whiptail lizard, *Cnemidophorus laredoensis*, in Bentsen–Rio Grande Valley State Park in southern Texas. *Cnemidophorus laredoensis* is essentially an annual species with nearly complete population turnover each year. Young of the year appear in July and August and reach maturity by the following May at a minimum size of 60 mm SVL and a minimum age of 10 months. On average, less that 10% survive into their second year; those that do often acquire sky-blue coloration on the sides of their bellies. The reproductive season extends from May to early August; mean clutch size is 2.9, modal clutch is three. Large lizards begin reproduction earlier in the year and produce two clutches; smaller lizards begin reproduction later and produce one clutch. *Cnemidophorus laredoensis* appear to remain within a small home area throughout their entire lives. About 12% of lizards had broken or regenerated tails; the number of lizards with broken tails was not correlated with predator abundance among years. During the study, the *C. laredoensis* population increased dramatically during a severe drought despite evidence that reproduction was greatly curtailed. Immigration from surrounding areas probably accounts for the increase. Growth of adults was not significantly affected by the drought, remaining near the average of 0.13 mm/day throughout the study. Growth slowed as lizards became larger but never stopped, not even during the reproductive season. Infestation with external mites was substantially reduced during the drought. Comparison with other species indicates that *C. laredoensis* is typical of most *Cnemidophorus* species in maturing early, being multiple-brooded, and producing small clutches. Because it reproduces parthenogenetically, *C. laredoensis* can potentially build up populations much faster than the biparental species *C. gularis*, with which it frequently coexists. However, evidence suggests *C. gularis* is longer-lived than *C. laredoensis*; and that this greater longevity may cancel out any advantage that parthenogenesis confers.

NEWTS AND CHEMICAL CUES

P. Aragón et al. [2000, Copeia (3):874-878] note that there is behavioral and anatomical evidence for the existence of chemical communication in newts of the genus *Triturus*. A laboratory study tested whether male Bosca's newts (*Triturus boscai*) preferred water in which they had been held over clean water or water in which other males or females had been held. Males preferred water that presumably contained chemical cues from themselves or other conspecifics, and males already paired with a female spent significantly more time in their home water than did single males. These observations suggest that male *T. boscai* were able to identify chemical cues from conspecifics and discriminate cues from females.

BURROWING BEHAVIOR OF MIDWIFE TOADS

L. E. Brown and E. G. Crespo [2000, Alytes 17(3-4):101-113] compared burrowing movements used by the midwife toads *Alytes cisternasii* and *A. obstetricans*. Both species are among a small minority of fossorial anurans that use their forelimbs to burrow. Both species used either synchronous or alternating movements of the forelimbs and fingers to help scrape soil. The toads sometimes used their heads to help scoop soil, and push-up-like movements were used to help pack soil against tunnel roofs. Individuals vocalized and aggregated in groups (2–5 individuals to a chamber), thus suggesting possible social interaction. The two species differed in the way they used their hind limbs during burrowing. *Alytes obstetricans* actively kicked soil backwards while tunneling, and then turned to push it to the surface, but *A. cisternasii* rarely used its hind limbs, and then only for bracing while burrowing with forelimbs. The authors observe that *A. cisternasii* is highly fossorial and an efficient forward burrower, while *A. obstetricans* is a reluctant burrower that often lingers at the soil surface or prefers to enter burrows through pre-existing holes. The authors found correlations between the unique burrowing behaviors of each species and their morphology and habitats. Male *A. obstetricans* carrying eggs were not observed to use different burrowing behavior than males not carrying eggs, and kicking of hind limbs did not appear to affect the transport of the eggs.

REPRODUCTIVE PATTERNS OF AMNIOTES

D. G. Blackburn [2000, Herpetological Monographs 14: 371-377] proposes that the classification of reproductive patterns inherited from the 19th century reflects mammalian biases and fails to capture our understanding of amniote reproductive diversity. Much more useful is a bipartite classification that fully distinguishes between two separate reproductive parameters: sources of nutrients for development, and state of the reproductive product at emergence from the mother. "Oviparity" and "viviparity" are used in their literal senses to refer to "egg-laying" and "live-bearing" reproduction. "Lecithotrophy" refers to provision of nutrients to the embryo via the yolk, and "matrotrophy" to provision by alternative means (e.g., a placenta, a pattern termed "placentotrophy"). Use of these terms has several advantages, including elimination of confusion associated with the archaic term "ovoviviparity." This system also recognizes commonality between patterns involving maternal provision of nutrients before birth or hatching (e.g., to eggs and embryos) and afterwards (to neonates). Growing consensus around the bipartite classification of reproductive patterns reflects recognition of the importance of a common biological vocabulary that applies widely across traditional methodological, disciplinary and taxonomic boundaries.

EFFECTS OF INCUBATION TEMPERATURE

R. M. Andrews et al. [2000, Herpetological Monographs 14: 420-431] note that incubation temperature affects a wide range of phenotypic traits of hatching reptiles. They attempted to determine if such phenotypic traits persist long enough in the field to have an effect on fitness. Eggs of *Sceloporus undulatus* lizards were incubated at six temperature regimes, five constant and one fluctuating, with means ranging from 23 to 33°C. Hatchlings were measured and their subsequent morphology, growth, and survival were monitored for 7–9 months, one to two months before individuals reached adult size. Phenotypic traits of lizards that hatched at the field site were used for comparative purposes. Morphological traits persisted for 7–9 mo. In contrast, growth rates did not differ among incubation temperature treatments after individuals were released in the field. Overall, 29 (27%) of 107 individuals that were released survived to the spring following hatching, and individuals from eggs incubated at the lowest temperature had higher survival than individuals from all other groups. The phenotypes of lizards incubated at intermediate temperatures tended to be most similar to those of field hatched lizards. The authors rejected two predictions about phenotypic responses to incubation temperature. The first prediction was that extreme incubation temperatures would be associated with the most deviant phenotypes. Observed phenotypic responses to temperature were either linear or, only one extreme temperature produced a deviant phenotype. The second prediction was that hatchlings incubated at warm temperatures and that hatched early in the season would have higher survival in general and higher overwinter survival in particular than hatchings incubated at cool temperatures and that hatched later in the season. The reverse was true; observed survival was greatest for hatchings from the coolest incubation treatment that hatched last.

BOSC'S MONITORS IN GHANA

D. Bennett [2000, Amphibia–Reptilia 21(3):301-306] estimated the density and abundance of *Varanus exanthematicus* by single searches and mark–recapture studies at sites in the coastal plain (Great Accra Region) of Ghana. Searches yielded a mean of 0.42 lizards per person-hour of effort in August/September 1994 and 0.87 lizards per person-hour of effort in March/April 1996. Mark–recapture results indicated a density of 357 juveniles per km^2 in mixed farmland and grassland habitats. The author notes that in Ghana this species is collected for the international pet trade. Juvenile lizards are preferred for the pet trade because they are more marketable and cheaper to ship. They are collected either by excavating burrows or by catching gravid females and incubating the eggs artificially. According to Ghana Wildlife Department CITES statistics a total of 52,809 *V. exanthematicus* were exported over the four-year period 1995–1998. Based on the population estimates from this study, and assuming a 50% extraction rate and zero mortality between collection and export, 55.5 km^2 of coastal grassland/farmland mosaic could satisfy this declared yearly demand for *V. exanthematicus*.

DEFINING AMPHIBIAN MALFORMATIONS IN A DEVELOPMENTAL CONTEXT

C. U. Meteyer et al. [2000, J. Iowa Acad. Sci. 107(3-4):72-78] summarize terminology and concepts from developmental terminology applied to amphibian malformations. Radiographic evidence indicates that rear-limb malformations in *Rana pipiens* are caused by early developmental errors. While several factors may cause teratogenic effects, identifying these factors must include examinations of early-stage tadpoles (e.g., during limb-development). Examinations of metamorphosed frogs were inconclusive relative to the contribution of potential causal factors to malformations. The authors point out that future studies should concentrate on early developmental stages, and in models that mimic field conditions.

FROGS OF AN AMAZONIAN SAVANNA IN BRAZIL

S. Neckel-Oliveira et al. [2000, Amphibia–Reptilia 21(3):317-326] studied the distribution of anurans in savanna, regrowth and mature forest in the region of Alter do Chã o, a small village that lies at the mouth of a complex of lakes that drains into the Tapajós River in Brazilian Amazonia. They sampled 31 sites on the right bank of the Tapajós river and on the shores of the nearby lakes, and recorded all acoustic and visual observations of frogs. Eighteen anuran species were found: Leptodactylidae (8), Hylidae (7), Bufonidae (2) and Pseudidae (1). The distribution of species indicated that some species are generalists and others are restricted to certain habitats. The species at Alter do Chã o are a subset of those found in forested sites in Amazonia. Lakes and forested areas had the greatest anuran diversity, but are also the areas most disturbed by tourist development and agriculture. Reduction of anuran diversity in the area could be minimized by concentrating development along the main beaches of the Tapajós River.

Unofficial Minutes of the CHS Board Meeting, November 17, 2000

The meeting was called to order at 7:29 P.M. Board members Karen Bielski and Marcia Rybak were absent. Jack stated that the board had two meetings each month during which business could be conducted (the board meeting and the general meeting). If there were a matter so urgent that it could not wait, Jack would like to be contacted directly.

Officers' Reports

Recording Secretary: Emily Forcade read the minutes of the October meeting. Corrections were made and the minutes were accepted. The minutes from the September meeting, distributed at the last meeting, were also accepted.

Treasurer: Gary Fogel distributed the treasurer's report. He noted that so far this year, our expenses exceed our income by c. $7,000 (as anticipated). Jack said that a review of the last seven years of annual reports shows that over that period, on average, annual income has exceeded expenses by $1100.

Membership Secretary: Mike Dloogatch distributed a membership report for November. Ten new members joined this month, however we are averaging twenty nonrenewals each month. Greg Brim noted that this trend cannot continue forever. Jack said that at the retreat on November 10, we suggested that name tags be made to identify members (and other people who attend) at the door. Mike suggested that disposable stick-on tags be used. Greg Brim will arrange for these and he will monitor people as they enter to invite each person to wear one. Mike received an E-mail from a foreign member requesting to pay for his membership by credit card. We do not have the capacity to accept charge cards now. The group discussed the possible benefits of acquiring this capacity. Greg mentioned that if even one person a month were motivated to renew because of the ease involved in using credit, this would probably bring in enough money to cover the cost of the credit system. Lisa Yerian mentioned that perhaps a card would encourage vendors at ReptileFest. Jack will look into the costs of acquiring and maintaining a credit system.

Vice-President: Lori King said that the speaker for the December general meeting will be Mike Redmer. She has several speakers lined up for 2001. Robert Sprackland sent a letter saying he had a fantastic time during his Chicago visit. On Sunday, December 10, he will be on Mark O'Shea's show on the Animal Planet cable station. She will announce this at the general meeting.

Corresponding Secretary: Steve Spitzer said that Governor Bush of Texas sent us a letter thanking us for bringing our views on sea turtles to his attention. Steve passed out the schedule for the 2001 CHS board meetings. Jack said that Steve followed up on the problem with the meeting room last month. The meeting was on the schedule but the security personnel were not aware of it. Steve also received a letter from the SSAR's Sherman Minton fund thanking us for our contribution.

Publications Secretary: Chris Lechowicz reported that he has been in charge of the CHS website since October 9. He said that anything coming up in the near future has been updated. Jack said that we would now have 20 minutes to discuss a specific issue that has come up about managing the website. Char Haguewood, who is in charge of the 2001 Midwest Herp Symposium, wants to make sure that accurate information about the symposium gets online in a timely way. She said that she has her own website with a separate page for the symposium which she is going to run. She asked that the CHS site link to her page rather than maintain a separate one. Mike Dloogatch suggested to Chris that he take all the help he can get, but what information goes on site, and how it gets there, should be his decision and the board should stand by his decision. Greg Brim said that you need one webmaster who will input standardized data. If you have more than one person doing this, information can be lost. Rich Crowley said that the webmaster needs to be the one who maintains the integrity of the site, because he's the one who will hear about the problems. Mike wondered if Char couldn't just send the information to Chris to input. It appears there are technical problems that would make this difficult. Jack suggested that perhaps when we have a special event, like the symposium, we could set up a link from our website to an outside page. Greg said that what the CHS is doing should be contained within one website. Mike said that once again, it needs to be Chris' decision if we link to Char's symposium page or maintain our own. Jack asked for an opinion from the group. Linda Malawy felt this should be worked out by the people who understand the technology involved. Lori King suggested that perhaps Chris, Char, Rich and Greg could get together to discuss possible solutions. In the meantime, Jack suggested that if Char notes that there are some small problems with the web info re the symposium she could pass this info on to Chris. If there are bigger problems, she should contact him. Jack said that the status quo remains and there is no decision for the board to make now.

Standing Committees

Jack distributed a letter he had written to Erin Battison, the manager of Corporate and Special Events at the CAS, as a follow-up to their phone conversation of October 30. He confirmed the meeting dates for year-end 2000 and for 2001, the rooms reserved and the 7-9:30 P.M. meeting times. He also confirmed that we need certain AV supplies but no AV assistance except in the case of an equipment malfunction. (Jack told the board that they discussed rent reduction which cannot be done due to the nature of their fund separation but that there is a possibility of funding to pay for shows. The CAS has a new CEO so policies may change and Jack hopes to discuss this Colin Silvester). Jack offered a monthly show (our general meeting) including a reptile of the month, which could be advertised in their newsletter and that this would be supplied to them at no cost. Jack will follow up with Erin a fter she meets with Colin. Claus Sutor mentioned reading about a show at the Peggy Notebaert Nature Museum aimed at teaching children about snakes. There was a charge for this program. Ron Humbert offered to check into this.

Adoptions: Rich Crowley and Linda Malawy reported that calls have come in for a few iguanas, redtail boas, other boas, a Burmese python and a few Savannah monitors. There have been fewer calls per day than at this time last year. Rich will look into possible problems with the phone link. Rich said that he plans to be able to put info online so that people can request specific animals for adoption.

ReptileFest: Darin Croft reported that he has sent the flyer to Don Wheeler for art work. It includes text changes and a new map. Darin plans to put together a press release, press alerts and press previews for TV stations. The committee leaders are in place. Jenny Vollman will be in charge of vendors; Ron Humbert will be in charge of reptile exhibitors. Joan Moore will help with group and organization exhibitors. Betsy Davis will help with donations. Jeff Janowitz will be in charge of the natural history labels. Someone is needed to handle group attendees. Someone is also needed to coordinate and organize presentations. Darin has notified Paul Sereno's secretary to block off the dates for Project Exploration to exhibit. Char asked if we could find out the specific times Paul will be in attendance since some people last year planned their attendance around seeing him. Darin presented the Top Ten Reasons to Attend ReptileFest, which will be published in the *Bulletin*. Another planning meeting will be held on the 5th or 6th of December. We will have access to the whole exhibit site on 8 P.M. Friday. There are activities in the gym before that time, but we may be able to have access to a third of the site earlier since the site can be partitioned. Lori said that since UIC will set up tables and skirt them this will be a tremendous help but that they won't be doing this until after 8. Darin said he can get extra people from UIC and U of C to help with this. Gino Martinez has offered to handle printing of the flyers.

Ad Hoc Committees

Nominating 2001: Ron Humbert suggested that if there are no nominations for offices from the members, that we proclaim the slate by acclamation. The group was agreeable. There will be a series of slides and videos. Ron asked anyone interested in presenting to let him know. Mike suggested that the nominees be asked to stand up and say a few words about themselves even if the elections are by acclamation.

Trips: Char Haguewood offered to organize a zoo trip for late spring. She is interested in ideas from members about places they would like to visit that are within a five-hour drive.

Salamander Safari: Ron Humbert said that it will take place on Saturday, March 31, from 8:30 A.M. to 2:00 P.M., and that we will meet at Camp Sagawau in the Palos Park Forest Preserves. Ron feels that data from our annual safaris can provide a useful baseline for future natural history inventories of the area. Steve Spitzer said he also knows some places on the north side where this can be done.

Symposium 2001: Char distributed minutes from the last Symposium planning meeting. Prices have been set for entry, breeders' and vendors' tables, and the banquet. We will sell T-shirts with a photo composite. Lisa Yerian and Jack offered to look for people who might have the technical expertise to do this. Joan Moore will run the breeders' sale. Char asked her to talk about rules for breeders. The next planning meeting will take place in January. The date is pending.

Old Business

Frog Call Tapes: Jack Schoenfelder welcomed Ricki White from the National Audubon office in Skokie. Mike Redmer has been looking at several programs. He believes that enough money can be contributed from various sources to allow a fully scripted and narrated tape to be produced by Lang Elliot. Ricki White added that the two goals of the frog call survey are to increase people's awareness of frogs, amphibians and reptiles and to have data for use in making land management decisions. Mike said that selling tapes to recuperate investments/disbursements is unlikely to be possible. Any organizations that provide funding will be given credit on the tape. Chicago Wilderness amphibian monitor trainers will be happy to put in a good word for the CHS and to distribute meeting invitations and membership applications at training workshops, if the CHS can provide the materials. Mike Redmer said that in the next year he would like to increase our involvement in this activity. Mike Dloogatch moved to donate $600 to Chicago Wilderness for production of a master CD of Chicago area frog calls. Lori King seconded. The motion carried unanimously.

Mission–Vision–Values Retreat: Jack reported that the retreat was held and that he will be writing a piece for the *Bulletin* to summarize the proceedings. It was a starting point for an outcomes assessment process. In weighing activities the CHS does or can do in terms of importance and degree of difficulty, social activities and field trips ranked high in importance and low in degree of difficulty. Among the possible social activities, house tours and board meetings at members' homes can be considered. Jack asked for input about the usefulness of the retreat. Emily Forcade said she thought it was an excellent opportunity to discuss our ideology without the pressure of immediate tasks to be done. She suggested we do a follow-up in the next few months. Ron Humbert offered to host the next retreat at his home in Michigan. Darin Croft and Lisa Yerian volunteered to host a board meeting sometime after ReptileFest.

Round Table

Ron Humbert asked how the other discussion groups went at the October meeting. Mike Dloogatch said the snake group which met out in the hall away from the noise went well. Lori agreed that the room was too loud to have a good discussion. Rich Crowley suggested that next time the group leaders bring in some information to be used to organize the discussions.

Mike Dloogatch he will make up ballots for the election.

Gary Fogel said that Linda Malawy is now in charge of exchange publications with other herp societies.

The meeting adjourned at 9:45 P.M.

Respectfully submitted by Emily Forcade for
Recording Secretary Karen Bielski

Bull. Chicago Herp. Soc. 35(12):292-296, 2000

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Advertisements

For sale: Frozen rodents now available at the General Meeting starting July 26! Just another good reason to come to the meetings at the Chicago Academy of Sciences Patty Notebaert Nature Museum. Assorted sizes of rats and mice. Call Rich Crowley at (708) 485-5705 for details and pricing.

For sale: rats and mice—pinkies, fuzzies and adults. Quantity discounts. Please send a SASE for pricelist or call Bill Brant, *THE GOURMET RODENT*, 6115 SW 137th Avenue, Archer FL 32618, (352) 495-9024, E-mail: GrmtRodent@aol.com.

For sale: murine-pathogen-free rats and mice available in all sizes, live or frozen: pinkies, fuzzies, crawlers, small, medium and large. Frozen crawler mice in lots of 2000, $.17 each. Also available, full grown hairless mice. FOB shipping point. Master Card accepted. Call (518) 537-2000 between 8:00 A.M. and 5:00 P.M. or write SAS Corporation, 273 Hover Avenue, Germantown NY 12526 for prices and additional information.

For sale: from **The Mouse Factory**, producing superior quality, frozen feeder mice and rats. We feed our colony a nutrtionally balanced diet of rodent chow, formulated especially for us, and four types of natural whole grains and seeds. Mice starting from: pinks, $.17 each; fuzzies, $.24 each; hoppers, $.30 each; weanling, $.42; adult, $.48. Rats: starting with pinks at $.45 each, to XL at $1.80 each. Discount prices available. We accept Visa, MC, Discover or money orders. P.O. Box 85, Alpine TX 79831. Call us **toll-free** at (800) 720-0076 or visit our website: http://www.themousefactory.com.

For sale: from Bayou Rodents, excellent quality feeder mice and rats. Every size available. Pinks starting at $20/100. Orders are shipped by overnight service Monday thru Thursday. We accept Visa, MasterCard and Discover. For more info, contact Rhonda or Peggy, (800) 722-6102.

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For sale: c.b. 2-year-old male northern blue-tongue skink, $50; c.b. baby Mali uromastyx, $50; c.b. juvenile ornate uromastyx, $350; wild caught Mali uromastyx breeding pair, $200. Ross or Laura, (847) 328-8175.

For sale: One-year-old captive-born armadillo lizards (*Cordylus cataphractus*), $400 each. Born Oct 1999, these lizards are the ones that roll up into a ball when frightened. They can be very long lived, up to 25 years and are easy to maintain. Gary Fogel, (773) 935-6938; E-mail: kordylus@juno.com.

For sale: Brazilian rainbow boas—screaming red & orange babies, only five left, $125; "starburst" woma python—pick of the litter male, outstanding animal, $1250; 3½' female Argentine boa, $150; 4' striped male African rock python, $150; Pueblan milksnakes, c.b. '00, $35. All animals are captive born and are feeding on prekilled rodents. Mark Petros, Strictly Serpents, (847) 854-3259, E-mail: turbovixens1@prodigy.net.

For sale: Send SASE to CRC, P.O. Box 0731, Las Vegas NV 89125-0731 for brochures and list of species available. Limited bookings available for guided tours of herpetological collection sites in Nevada. Call/fax (702) 450-0065. URL http://www.herp.com/crc/ E-mail: crcsafetie@aol.com.

Tours: Adventure tours to Madagascar! Join **Bill Love** seeing and photographing fauna and flora, heavily herp-biased, across the world's least known mini-continent. Maximum fun & photo ops assured on every trip. Contact him at: BLUE CHAMELEON VENTURES, P.O. Box 643, Alva FL 33920. TEL: (941) 728-2390, FAX: (941) 728-3276, E-mail: blove@cyberstreet.com.

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Wanted: big-headed turtles; mata mata turtles; Mexican giant mud turtles (*Staurotypus triporcatus*); exceptionally large common snappers (45 lbs. & up); large alligator snappers (over 90 lbs.); spectacled caiman from Trinidad, Tobago and Surinam; dwarf caiman; smooth-fronted caiman; albino turtles (except red-eared sliders). Walt Loose, (610) 926-6028, 9:00 A.M. – 1:00 P.M. or after 11:30 P.M. Eastern Time.

Line ads in this publication are run free for CHS members — $2 per line for nonmembers. Any ad may be refused at the discretion of the Editor. Submit ads to: Michael Dloogatch, 6048 N. Lawndale Avenue, Chicago IL 60659, (773) 588-0728 evening telephone, (312) 782-2868 fax, E-mail: <MADadder0@aol.com>.

NATURE PHOTOGRAPHY SEMINAR AND WORKSHOPS, JANUARY 20 and 27, 2001

The Glenview Park District and The Grove Natural Historical Landmark will host an all-day seminar, and half-day workshops on "Fundamentals of Nature Photography." The January 20 seminar ($35 Glenview residents; $43.75 for non-residents) will be an instructional slide presentation covering fundamentals (equipment selection, exposure, focus, composition, and finding subjects to photograph). The optional ($22 Glenview residents, $27.50 non-residents), four-hour workshops (January 27) will include a hike into the Grove's woodlands and prairie for "hands-on" demonstrations of field techniques and equipment use. The workshops will include indoor opportunities to learn methods for photographing small animals (including amphibians and reptiles) and natural subjects under "studio" conditions. Both activities are geared toward beginning nature photographers (age teen – adult). This is a great chance to learn some tricks for improving your herp photography, as well as nature photography in general.

The Grove is located at 1421 Milwaukee Avenue, Glenview, Illinois. For information, or to register call The Grove at (847) 299-8096.

NEW YORK TURTLE AND TORTOISE SOCIETY SEMINAR, JANUARY 13

The New York Turtle and Tortoise Society's 14th Annual Seminar will take place on Saturday, January 13, 9:00 A.M. – 5:00 P.M., at the Linder Theater, American Museum of Natural History, 79th Street at Central Park West, New York City, (Enter on 77th Street between Columbus & CPW). The event will feature four presentations: Gregory George, Herpetologist/Designer of Reptile and Amphibian Exhibits, Chattanooga, TN, "Threatened River Turtles in the Southeastern United States — An Update"; Heather B. Kalb, Department of Biology, West Chester University, West Chester, PA, "Behavior of Solitary and Arribada-Nesting Olive Ridley Sea Turtles, *Lepidochelys olivacea*, During the Internesting Period"; Peter C. H. Pritchard, The Chelonia Institute, Oviedo, FL, "Vietnam: The Hunt for the World's Rarest and Largest Freshwater Turtle"; and research interns from the Wetlands Institute, Stone Harbor, NJ, "The Diamondback Terrapin Recovery Program—Conservation Techniques to Save a Population." The fee for the day, which includes a buffet lunch at the Museum Food Court, is $30 per person — if you register by January 6, 2001. The fee at the door without reservations will be $35 per person. To register, send check by January 6, 2001, payable to NYTTS for $30 per person to: Seminar 2001, The New York Turtle and Tortoise Society, P.O. Box 878, Orange, NJ 07051-0878. Please include phone number and e-mail address. For additional program information, see <http://nytts.org>.

FIELD HERPETOLOGY POSITIONS AVAILABLE

The National Park Service and Wildlife Conservation Society have a cooperative agreement to inventory amphibians and reptiles at 10 National Park sites in the Northeast over the next three field seasons. Y2001 work will take place at Acadia National Park in Maine, Delaware Water Gap National Recreation Area in northeastern Pennsylvania and northwestern New Jersey, Minuteman National Historic Site in Massachusetts, Saint-Gaudens NHS in New Hampshire, and Saratoga NHS in New York. The broad goals are to inventory and record > 90% of the herpetofauna currently estimated to occur at each site, determine the status of species of management concern (endangered, threatened, special concern and other declining species) and identify critical habitat, and provide a basis for development of a long-term monitoring program.

Positions Available: Herpetology Field Technicians (4 positions)

Responsibilities include implementation of the work plan, rigorous data collection, and assistance in the preparation of the final report. Assist Team Leader as required. Requirements: Applicants should have a degree in biological sciences, demonstrated herpetological knowledge, and be familiar with amphibian and reptile survey methodology. Must have leadership and teamwork skills and be able to work independently and contend with long and hard hours and inclement weather. Clean driver's license. Stipend: $400/week, plus housing. Month of July off, one week paid vacation.

Work site 1: Acadia NP (1 position available). Start date: 1 April. Finish: 15 September.

Work site 2: Minuteman-Sainte Gaudens-Saratoga NHS (2 positions). Start date: 15 March. Finish: 30 September.

Work site 3: Delaware Water Gap National Recreation Area. Start date: 15 March. Finish: 30 June.

Applications for the above positions will be accepted until December 31. Application should include resuméand a cover letter stating specific interests and flexibility. Also include names, addresses, telephone numbers, and E-mail addresses of three references familiar with the applicant's educational and field experience. Materials sent electronically should be directed to Jbehler@wcs.org, copy to Lwilliamson@wcs.org.

John L. Behler, NPS/WCS Cooperative Agreement, c/o Department of Herpetology, Wildlife Conservation Society, Bronx, NY 10460-1099. WCS and NPS are Equal Opportunity Employers.

Dear CHS Member:

In this *Bulletin* you will find an application form for this year's ReptileFest. This is our eighth annual event and we are proud that it is the only show of its size anywhere that is strictly educational. (As always, there will be no selling of live reptiles and amphibians).

We've made a few changes this year that we're pretty excited about. First, we are holding the event close to downtown Chicago. Although it will be closer for some and further for others, at least everyone has a pretty good idea of where downtown Chicago is located—hopefully that will make it easier for our attendees to find us. It will be held in the **P.E. building at the University of Illinois at Chicago (UIC)**; the address is 901 W. Roosevelt Road (1200 south).

Second, we have moved the date of ReptileFest to earlier in the year. That's why this letter and application are appearing in the December bulletin instead of the February one. ReptileFest will be held **Saturday and Sunday, March 24–25** between 10 A.M. and 5 P.M. (things will end an hour earlier than in previous years). Hopefully there will be no nice weather luring prospective attendees to outdoor activities that weekend; instead, we want them to all come to ReptileFest. Set-up will take place Friday night (after 8 P.M.) and Saturday morning (6 A.M. to 9:30 A.M.).

It takes two things to make a really great ReptileFest: great exhibits and lots of people coming to visit. We have some control over the former, so WE NEED YOUR HELP. Please mark the weekend on your calendar right now and commit to either bringing animals to display or coming to help out. If you are going to display, please send in your form so we can properly manage our space. If you live within driving distance of UIC, we will be counting on your participation.

In case you are still not totally convinced that you should help, here are

The Top Ten Reasons to Sign Up for ReptileFest

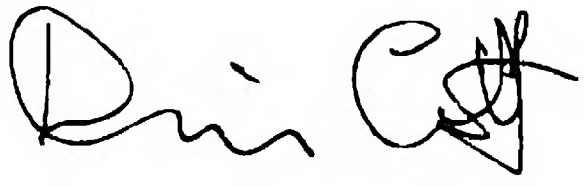
10. We've paid for 25,000 square feet of exhibition space so we might as well try to fill it
9. You'll make me look good my first year as ReptileFest Chair
8. Free pizza! Both days!
7. Rumor has it that Paul Sereno is going to be there again this year. But it's only a rumor . . .
6. If we get enough people this time, there won't be a recount
5. You don't have to bring animals—be a relief worker!
4. It makes a great date (twice)
3. Do it for the Utila iguana
2. Gary Fogel bet me $20 you wouldn't come

And the #1 reason for you to participate in ReptileFest . . .

1. Because herps can't drive

Seriously, though, the main reasons to participate in ReptileFest: it's a lot of fun and a good way teach people about the wonderful world of reptiles and amphibians. Please feel free to call me if you have any questions or would like to help out!

Sincerely,



Darin Croft, ReptileFest Chair
Home: (773) 288-8851
Office: (312) 665-7528 / 7648

UPCOMING MEETINGS

The next meeting of the Chicago Herpetological Society will be held at 7:30 P.M., Wednesday, December 27, at the Peggy Notebaert Nature Museum, Cannon Drive and Fullerton Parkway, in Chicago. Featured speaker **Mike Redmer** will describe "Building a Collection That Doesn't Eat: Photographing Amphibians and Reptiles." This presentation will discuss fundamentals of photography as they apply to amphibians and reptiles. Among the topics covered will be: (1) An overview of technical aspects, such as must-have camera features and selecting a modern 35 mm camera system; (2) Understanding exposure and focus; (3) Composition and posing in amphibian and reptile portraiture; (4) Beyond portraiture: photographing natural history situations.

Speaking at the January 31 meeting will be **Terry L. Vandeventer**, a field associate with the Mississippi Museum of Natural Science, Jackson, Mississippi. Terry's topic will be "A Review of the Herpetofauna of Mississippi and the Biogeographic Regions Influencing Its Distribution in the Magnolia State, or . . . Mos'ly We Jus' Shoot 'em!"

The regular monthly meetings of the Chicago Herpetological Society now take place at Chicago's newest museum—the **Peggy Notebaert Nature Museum**. This beautiful new building is at Fullerton Parkway and Cannon Drive, directly across Fullerton from the Lincoln Park Zoo. Meetings are held the last Wednesday of each month, from 7:30 P.M. through 9:30 P.M. Parking is free on Cannon Drive. A plethora of CTA buses stop nearby.

The Chicago Turtle Club

The annual CTC Potluck Holiday Party will take place on December 17, noon to 4 P.M., at the North Park Village Nature Center, 5801 N. Pulaski, in Chicago. Parking is free. For more info call Lisa Koester, (773) 508-0034 or visit the CTC website: http://www.geocities.com/~chicagoturtle.

ELECTION RESULTS

As a result of the elections held November 29, 2000, the following officers and members-at-large will serve on the CHS Board of Directors for the year 2001.

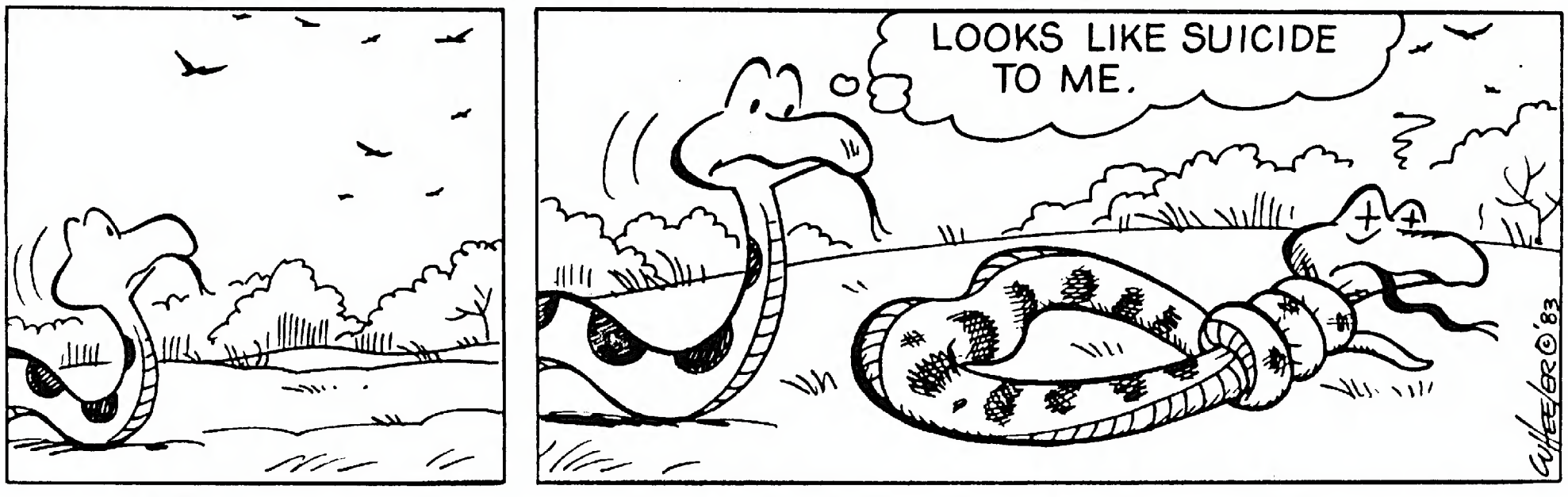
President:	Jack Schoenfelder	Membership Secretary:	Michael Dloogatch
Vice-president:	Lori King	Sergeant-at-arms:	Dan Bavirsha
Treasurer:	Greg Brim	Members-at-large:	Rich Crowley
Recording Secretary:	Emily Forcade		Char Haguewood
Corresponding Secretary:	Steve Spitzer		Linda Malawy
Publications Secretary:	Michael Redmer		Jenny Vollman

DONATIONS TO THE OCTOBER 25 RAFFLE

The following is a listing of those businesses and individuals who generously donated items for our monthly raffle at the October 25 meeting. The donated items are shown in parentheses.

Rep-Cal (bearded dragon food); **Absorption Corp.** (Carefresh pet bedding); **Tetra Terrafauna** (Vitolife supplement / ReptoMin floating food stix); **Sunshine Mealworms** (cricket gift certificate); **Timberline** (Easy Water cricket hydration gel); **Super Pet** (Hanging Gardens cage decor / Rock Pool Cover / Little Critter Kit); **Hagen** (OrnamentAlls cage decor / Repti-por odor remover); **Charlotte Henkle** (large hexagonal aquarium and stand); **Fran Kostka- KFK Jewelry** (herp necklace); **Ron and Dotty Humbert** (aquariums and covers / herp sculpture / aquarium filter); **Jack Schoenfelder—Reptiques** (mini aquarium); **Dr. Cheryl Roge—Best Friends Animal Hospital** (heat mat / book: *The World of Turtles and Tortoises*); **CHS** (T-shirt / enamel pin).

THE ADVENTURES OF SPOT



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